

## WHAT IS CLAIMED IS:

1. A microwave device for at least one of dissipating and attenuating power, the device comprising:
  - an insulating substrate;
  - 5       - at least one conductive strip of a microwave transmission line on a face of the substrate;
  - at least one ground zone; and
  - at least one resistive layer placed on said face of the substrate, the resistive layer having at least a
  - 10       first region to which the conductive strip(s) is connected and a second region connected to the ground zone, the resistive layer presenting a longitudinal axis; in which device:
    - the resistive layer is covered at least in part by
    - 15       a ground plane connected to the ground zone and insulated from the resistive layer by an insulating layer; wherein said ground plane comprises a conductive material silkscreen printed on the insulating layer.
2. A device according to claim 1, wherein the first region of the resistive layer presents a shape that converges towards the conductive strip.
3. A device according to claim 2, wherein the or each
- 25       first region presents a substantially trapezoidal shape, the conductive strip(s) being connected to the resistive layer via the minor base of the trapezoid.
4. A device according to claim 3, forming a resistive
- 30       load, wherein the entire resistive layer is substantially trapezoidal in shape, the ground zone being connected to said resistive layer via the major base of the trapezoid.
5. A device according to claim 1, forming a resistive
- 35       load, wherein the second region is substantially rectangular, and the ground zone connects to said region via one side of the rectangle.

6. A device according to claim 1, forming an attenuator, wherein the device comprises two conductive strips and wherein the resistive layer comprises:
- 5       - two trapezoidal first regions each connected to a conductive strip,
  - a central rectangular second region connected to the ground zone.
- 10   7. A device according to claim 1, wherein the ground plane does not completely cover the first region, being set back from the junction between the conductive strip and the resistive layer.
- 15   8. A device according to claim 1, wherein the ground plane covers the second region completely.
- 20   9. A device according to claim 1, wherein the ground plane extends transversely over the entire width of the resistive layer.
- 25   10. A device according to claim 1, in which the ground zone is formed on the substrate, being adjacent to the second region, wherein the ground plane comes into electrical contact with said ground zone behind the resistive layer.
- 30   11. A device according to claim 1, wherein the substrate carries two lateral conductive tracks on either side of the resistive layer, and connected to said ground zone, the ground plane covering said tracks.
- 35   12. A device according to claim 1, wherein the ground plane is connected to lateral ground zones extending along the edge faces of the substrate.

13. A device according to claim 1, wherein the first region presents a dimension extending transversely to the longitudinal axis of the resistive layer, that is less than that of the second region.

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14. A device according to claim 1, wherein the device forms at least one of a resistive load and an attenuator.

15. A microwave device for at least one of dissipating and attenuating power comprising:

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- an insulating substrate;
- at least one conductive strip of a microwave transmission line on one face of the substrate;
- at least one ground zone; and

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- at least one resistive layer deposited on the above-specified face of the substrate, the resistive layer including at least a first region to which the conductive strip(s) is connected, and a second region connected to the ground zone, the resistive layer presenting a longitudinal axis,

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in which device:

- the resistive layer is covered at least in part by a ground plane connected to the ground zone and insulated from the resistive layer by an insulating layer;

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wherein the device includes an insert comprising a conductive wall pressed against the insulating layer and defining the ground plane, and wherein the insert is arranged to hold the substrate on the bottom of a package in which the device is housed.

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16. A device according to claim 15, wherein the insert includes at least one conductive and elastically deformable tab suitable for pressing against a wall of a package.

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17. A device according to claim 15, wherein the insert includes at least one fastener portion enabling it to be fastened on a support.

5 18. A device according to claim 17, wherein said fastener portion is soldered on the support.

19. A device according to claim 15, wherein the first region presents a dimension extending transversely to the longitudinal axis of the resistive layer that is less than that of the second region.

20. A microwave device for attenuating power and forming an attenuator, the device comprising:

- 15       - an insulating substrate;  
         - at least one conductive strip of a microwave transmission line on a face of the substrate;  
         - at least one ground zone; and  
         - at least one resistive layer placed on the above-  
20 mentioned face of the substrate, the resistive layer having at least a first region to which the conductive strip(s) is connected and a second region connected to the ground zone, the resistive layer presenting a longitudinal axis;  
25 wherein:

      - the first region presents a dimension extending transversely to the longitudinal axis of the resistive layer that is less than that of the second region.

30 21. A microwave device for attenuating power and forming an attenuator, the device comprising:

- an insulating substrate;  
      - at least one conductive strip of a microwave transmission line on a face of the substrate;  
35       - at least one ground zone; and  
      - at least one resistive layer placed on the above-mentioned face of the substrate, the resistive layer

having at least a first region to which the conductive strip(s) is connected and a second region connected to the ground zone, the resistive layer presenting a longitudinal axis;

5 wherein:

- the resistive layer is covered at least in part by a ground plane connected to the ground zone and insulated from the resistive layer by an insulating layer.

10 22. Method for manufacturing a microwave device for dissipating and attenuating power, the device comprising:

- an insulating substrate;

- at least one conductive strip of a microwave transmission line on a face of the substrate;

15 - at least one ground zone; and

- at least one resistive layer placed on said face of the substrate, the resistive layer having at least a first region to which the conductive strip(s) is connected and a second region connected to the ground zone, the resistive layer presenting a longitudinal axis;

20 in which device:

- the resistive layer is covered at least in part by a ground plane connected to the ground zone and insulated from the resistive layer by an insulating layer;

25 wherein the method comprises following step:

- making the ground plane by depositing by screen-printing a conductive material on the insulating layer.